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CATERPILLAR INC. 100 N.E. ADAMS STREET PATENT DEPT. PEORIA, IL 616296490			STEELMAN, MARY J	
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			2191	

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

**MAILED**

**MAR 13 2006**

**Technology Center 2100**

Application Number: 10/016,785  
Filing Date: December 06, 2001  
Appellant(s): FERGUSON ET AL.

\_\_\_\_\_  
Joseph E. Palys, Reg. No. 46,508  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 12/14/2005 appealing from the Office action mailed 10/14/2005.

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**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

No evidence is relied upon by the examiner in the rejection of the claims under appeal.

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

*Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,529,784 B1 to Cantos et al., in view of WO 97/46932 to Lee and Kyle (12/1997) (hereinafter Lee), and further in view of US Patent 5,517,434 to Hanson et al.

Per claims 1, 12, and 26:

-updating software installed on a...machine, the...machine having at least one non-volatile memory for storing the software, comprising:

-a remote data storage system for storing identifying information of said software;

(Cantos: Col. 2, lines 29-30, "...agent for collecting configuration, diagnostic, frequency of use of other information from the target computer system...")

-a remote processor for monitoring said remote data storage system to determine if updates are available for said software;

(Cantos: FIG. 1, col. 2, lines 50-52, "...components of the system for monitoring target computer systems and communicating software information to target computer system users.")

-a remote communications system operably connected to said remote processor, said remote communications system receiving said available updates from said remote processor and relaying said available updates to said...machine for storage in said non-volatile memory.

(Cantos: Col. 6, lines 13-21, "The control server may also access information in the KB to determine when the new software packages are available to customers. Upon finding that a new software package is available, the control server may send a general message to all agents communicating with the control server that the software package is available. Alternatively, the control server may send a message that the software package is available to only those agents whose target computer system are compatible with the new software package.")

Cantos failed to specify that the update would be to non-volatile memory.

However, Lee disclosed a remote updating system and method and specified (page 8, lines 12-13) that "hardware, firmware, or software in the client system" or (page 6, line 35) 'ROM' could be upgraded.

Therefore, it would have been obvious to modify the memory as non-volatile memory, as suggested by Lee, because Lee recognized the long felt need to (p.2, line 16) be able to automate the modification of computer systems by (p. 2, line 26) controlling the modification of computer hardware, firmware and/or software from a remote location, thereby minimizing (p. 2, line 9) time and labor, (p. 2, line 10) reducing errors, and (p.2, line 13) ensuring appropriate authority. Likewise, Cantos recognized the (col. 1, lines 9-10) complexity of centrally administered networks. Therefore, Cantos disclosed (col. 2, lines 26) a method and system for managing a network of target computers, using (col. 2, line 39) system management services.

Cantos / Lee failed to disclose that the invention was installed on a 'work machine.'

However, Hanson disclosed updating software installed on a work machine. Col. 17, lines 45-61, "In the early embodiment as intended to be used on a vehicle (e.g. farm tractor) (work machine), the terminal contained data storage means mounted at 370 (e.g. including one-half megabyte of RAM, and EPROM) and microcomputer operated control means mounted at 380, with the EPROM containing downloading/uploading control programming (updating software installed on a work machine) and application programming in RAM storage of means 370 for controlling on board devices and for receiving and storing data

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from a multiplicity of on-board analog and digital sensors as a basis for such control.

Therefore, it would have been obvious, to one of ordinary skill in the art, at the time of the invention, to modify Cantos / Lee include updates to a non-volatile memory of 'work machines' as suggested by Hanson, because vehicle controllers / computers are known in the art and maintaining, updating the controllers enhances the value of such equipment. The ability to (Hanson, col. 1, line 53) "survive rough handling" was suggested by Hanson to demonstrate a computer / controller in a 'work environment,' Hanson disclosed the need to download / upload control programming and application programming (col. 2, lines 6-12), a data capture system, which could be quickly and simply loaded in a relatively foolproof manner, without requiring attention and care from operators engaged in physically demanding and arduous work routines." Thus Hanson showed the advantage of updating controllers / computers on a 'work machine.'

Per claims 2, 13, 17, and 27:

-an interface for notifying an owner of said work machine of said available update.

(Cantos: FIG. 2B, #204, #206, col. 8, lines 44-55, "If the message is related to the target computer system, the agent determines whether the information is to be sent to the user...")

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Per claims 3, 14, and 15:

-said interface allows said owner to communicate acceptance of said available update and wherein said available update is relayed to said work machine upon said owner communication acceptance.

(Cantos: FIG 2B, #206, #210, col. 8, lines 55-58, "...initiates the presentation of relevant information to the user, either through the management tool GUI, electronic mail, a printed report or some other form...user input may be required for further action", col. 9, lines 3-5, "...after communicating the relevant information to the user, the agent would proceed to block and would perform these download and installation functions if instructed to do so by the user...")

Cantos fails to specifically state "update is relayed to said machine upon said owner communicating said acceptance." However, Lee disclosed (page 7, lines 13-14) "process is useful for upgrading a client system in order to modify it based on payment of an appropriate agreed upon price..." and (page 7, lines 32-34), "program proceeds to the 'receive upgrade cost from server'...then goes to the 'is upgrade cost acceptable?'" (owner acceptance)

Therefore, it would have been obvious, to one of ordinary skill in the art, at the time of the invention, to modify Cantos, to include owner communicating acceptance, as suggested by Lee, because Cantos also relates to updates to



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owner's computers, and suggests that fees and payment may be involved (col. 10, lines 23-25 and col. 10, lines 42-44) in an updated software installation.

Per claim 4:

-said interface includes an electronic message for notifying said owner.

(Cantos: FIG. 2B, col. 8, lines 55-58, "...initiates the presentation of relevant information to the user...user input may be required for further action...")

Per claims 5 and 18:

-said electronic message includes a link to a web site allowing said owner to communicate acceptance of said available update.

(Cantos: Col. 3, line 55, "...Web server...", col. 6, lines 39-50, "A user query may be submitted to the control server...or...directly from the user through a Web browser and the Web server...A user query may also be sent to determine whether upgraded versions of software packages are available and compatible...")

Per claims 6 and 16:

-a billing system operably connected to said remote processor for billing said owner for said accepted available update.

(Cantos: Col. 2, lines 40-42, "...enrolling customers to receive computer system management services for a fee...", col. 10, lines 23-25, "The software and hardware management services described above may be provided to subscribing

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customers for a fee”, col. 10, lines 42-44, “...payment status information, billing and subscription about the customer is stored...”)

Per claim 7, 19, 20 and 21:

-a machine processor for polling said at least one non-volatile memory / in said work machine / to collect said identifying information;

(Cantos: Col. 4, lines 5-7, “An agent associated with a target computer interrogates the target computer of system information. The agent may be implemented using a polling-only approach...”, col. 6, lines 30-34, “An agent may be multi-threaded to perform several operations at once...listen for software configuration and alert messages from the control server and transmit information to the management tool, control server, of KB...”)

-a machine data storage system for storing said identifying information, said identifying information being relayed from said machine data storage system to said remote data storage system.

(Cantos: Col. 4, lines 46-48, “The agent transmits target computer system information in a communications network over network connection...”, col. 7, line 66- col. 8, line 1, “...agent transmitting a message containing target computer system information to the control server through the communications network.”)

Per claims 8 and 22:

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-a machine communication system operably connected to said machine processor, said machine communication system receiving said available update from said remote communication system.

(Cantos, Col. 8, lines 44-46, "If the message is related to the target computer system, the agent determines whether the information is to be sent...", col. 8, lines 55-58, "...initiates the presentation of relevant information to the user, either through the management tool GUI, electronic mail, a printed report or some other form...user input may be required for further action.")

Per claims 9-11 and 23-25:

-said remote communication system comprises wireless communication means / cellular system / satellite system.

(Cantos: Col. 3, line 19, "...mobile/wireless...", col. 3, line 49, "...satellite, cellular...")

#### **(10) Response to Argument**

Appellant has argued, in substance, the following:

(A) Appellant has argued for claims 1, 12, and 26 on page 11-15 of the Appeal Brief.

Appellant cites (last paragraph, page 13) "the update(s) be stored or installed in the non-volatile memory of a work machine. Appellant argues that cited references do not suggest this limitation.

Examiner's Response: Examiner disagrees.

Cantos: Col. 6, lines 13-21, "The control server may also access information in the KB to determine when the new software packages are available to customers. Upon finding that a new software package is available, the control server may send a general message to all agents communicating with the control server that the software package is available. Alternatively, the control server may send a message that the software package is available to only those agents whose target computer system are compatible with the new software package."

Cantos failed to specify that the update would be to non-volatile memory. However, Lee disclosed a remote updating system and method and specified (page 8, lines 12-13) that "hardware, firmware, or software in the client system" or (page 6, line 35) 'ROM' (non-volatile) could be upgraded.

Therefore, it would have been obvious to modify the memory as non-volatile memory, as suggested by Lee, because Lee recognized the long felt need to (p.2, line 16) be able to automate the modification of computer systems by (p. 2, line 26) controlling the modification of computer hardware, firmware and/or software from a remote location, thereby minimizing (p. 2, line 9) time and labor, (p. 2, line 10) reducing errors, and (p.2, line 13) ensuring appropriate authority. Likewise, Cantos recognized the (col. 1, lines 9-10) complexity of centrally administered networks. Therefore, Cantos disclosed (col. 2, lines 26) a method and system for managing a network of target computers, using (col. 2, line 39) system management services.

Cantos / Lee failed to disclose that the invention was installed on a 'work machine.'

However, Hanson disclosed updating software installed on a work machine. Col. 17, lines 45-61, "In the early embodiment as intended to be used on a vehicle (e.g. farm tractor) (work machine), the terminal contained data storage means mounted at 370 (e.g. including one-half megabyte of RAM, and EPROM) and microcomputer operated control means mounted at 380, with the EPROM containing downloading/uploading control programming (updating software installed on a work machine) and application programming in RAM storage of means 370 for controlling on board devices and for receiving and storing data from a multiplicity of on-board analog and digital sensors as a basis for such control.

Therefore, it would have been obvious, to one of ordinary skill in the art, at the time of the invention, to modify Cantos / Lee include updates to a non-volatile memory of 'work machines' as suggested by Hanson, because vehicle controllers / computers are known in the art and maintaining, updating the controllers enhances the value of such equipment. The ability to (Hanson, col. 1, line 53) "survive rough handling" was suggested by Hanson to demonstrate a computer / controller in a 'work environment.' Hanson disclosed the need to download / upload control programming and application programming (col. 2, lines 6-12), a data capture system, which could be quickly and simply loaded in a relatively foolproof manner, without requiring attention and care from operators engaged in physically demanding and arduous work routines." Thus, Hanson showed the advantage of updating controllers / computers on a 'work machine.'

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(B) Appellant has argued for claims 2, 13, and 27 on pages 15-16 of the Appeal Brief.

Appellant cites that prior art fails to teach (page a5, last paragraph) “notifying an owner of a work machine of an available update.”

Examiner’s Response: Examiner disagrees. As noted above, the combination of Cantos, Lee and Hanson discloses a work machine that receives updates in a non-volatile memory of the work machine. Cantos disclosed (FIG. 2B, #204, #206, col. 8, lines 44-55) “If the message is related to the target computer system, the agent determines whether the information is to be sent to the user...” The update information is sent to the user (owner).

(C) Appellant has argued for claims 3, 4, 14, 15, and 17 on pages 16-17 of the Appeal Brief.

Appellant cites that prior art fails to teach (last paragraph, page 16) “installing an available update when an owner of a work machine accepts the available update.” Appellant argues that cited prior art does not teach a work machine, nor an invention installed on a work machine, nor the work machine receiving update in a non-volatile memory of the work machine (page 17, line 1). Appellant argues that the ‘user’ is not an owner of a work machine (page 17, lines 4-5).

Examiner’s Response: Examiner disagrees. Cantos disclosed (FIG 2B, #206, #210, col. 8, lines 55-58), “...initiates the presentation of relevant information to the user, either through the management tool GUI, electronic mail, a printed report or some other form...user input may be required for further action”, col. 9, lines 3-5, “...after communicating the relevant information to

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the user, the agent would proceed to block and would perform these download and installation functions if instructed to do so by the user...”

Cantos fails to specifically state “update is relayed to said machine upon said owner communicating said acceptance.” However, Lee disclosed (page 7, lines 13-14) “process is useful for upgrading a client system in order to modify it based on payment of an appropriate agreed upon price...” and (page 7, lines 32-34), “program proceeds to the ‘receive upgrade cost from server’...then goes to the ‘is upgrade cost acceptable?’” (owner acceptance)

Therefore, it would have been obvious, to one of ordinary skill in the art, at the time of the invention, to modify Cantos, to include owner communicating acceptance, as suggested by Lee, because Cantos also relates to updates to owner’s computers, and suggests that fees and payment may be involved (col. 10, lines 23-25 and col. 10, lines 42-44) in an updated software installation. Cantos: FIG. 2B, col. 8, lines 55-58, “...initiates the presentation of relevant information to the user...user input may be required for further action...”

(D) Appellant has argued for claims 5 and 18 on pages 17-18 of the Appeal Brief. Appellant cites that prior art fails to teach, “an electronic message includes a link to a web site allowing said owner to communicate acceptance of said available update.”

Examiner’s Response: Examiner disagrees. Cantos disclosed (Col. 3, line 55), “...Web server...”, col. 6, lines 39-50, “A user query may be submitted to the control

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server...or...directly from the user through a Web browser and the Web server...A user query may also be sent to determine whether upgraded versions of software packages are available and compatible...” Thus, a link is provided for communicating acceptance.

(E) Appellant has argued for claims 6 and 16 on page 18 of the Appeal Brief. Appellant cites that prior art fails to teach, “a billing system operable connected to said remote processor for billing the work machine owner for an accepted available update.”

Examiner’s Response: Examiner disagrees. Cantos disclosed (Col. 2, lines 40-42), “...enrolling customers to receive computer system management services for a fee...”, col. 10, lines 23-25, “The software and hardware management services described above may be provided to subscribing customers for a fee”, col. 10, lines 42-44, “...payment status information, billing and subscription about the customer is stored...” Thus prior art does disclose a billing system, billing fees for accepted updates.

(F) Appellant has argued for claims 7, 8, 19, 20, 21, and 22 on page 19 of the Appeal Brief. Appellant cites that prior art fails to teach, “polling at least one work machine nonvolatile memory to obtain identifying information and storing the identifying information in a data storage system that is relayed to a remote data storage system.”

Examiner’s Response: Examiner disagrees. Cantos disclosed (Col. 4, lines 5-7), “An agent associated with a target computer interrogates the target computer of system information. The



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agent may be implemented using a polling-only approach...”, (col. 6, lines 30-34), “An agent may be multi-threaded to perform several operations at once...listen for software configuration and alert messages from the control server and transmit information to the management tool, control server, of KB...”, (col. 4, lines 46-48), “The agent transmits target computer system information in a communications network over network connection...”, (col. 7, line 66- col. 8, line 1), “...agent transmitting a message containing target computer system information to the control server through the communications network. Thus, prior art disclosed target computer interrogation (obtaining identifying information) using a polling approach. The information is stored and relayed. Col. 7, lines 35-37, “the control server maintains target computer system information...”, col. 8, lines 44-46, “If the message is related to the target computer system, the agent determines whether the information is to be sent...”, col. 8, lines 55-58, “...initiates the presentation of relevant information to the user, either through the management tool GUI, electronic mail, a printed report or some other form...user input may be required for further action.”

(G) Appellant has argued for claims 9, 10, 23, and 24 on page 20 of the Appeal Brief. Appellant cites that prior art fails to teach, “a remote communication system comprising a wireless communication means including a cellular system.”

Examiner’s Response: Examiner disagrees. Cantos disclosed network communications including (col. 3, line 19), “...mobile/wireless...”, col. 3, line 49, “...satellite, cellular...”

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(H) Appellant has argued for claims 11 and on page 21 of the Appeal Brief. Appellant cites that prior art fails to teach, “a remote communication system comprising a wireless communication means including a satellite system.

Examiner disagrees. See response to (G) above.

(I) Appellant has argued (page 21, last paragraph) there is no motivation to combine Hanson, Cantos and Lee.

Examiner’s Response: Examiner disagrees. Motivation exists to combine the prior art references. Cantos recognized the difficulties associated with managing complex networks (col. 1, line 4) and provided an invention that (col. 2, lines 29-30) directs agents to collect configuration, diagnostic...or other information from target computer systems.” Cantos (col. 2, lines 39-42), disclosed providing system management services to a network of target computers including enrolling customers to receive services for a fee, receiving information about the customer network, and comparing the target system with software and hardware information stored in a database. Cantos disclosed (col. 3, lines 15-20), “The term target computer is not limited solely to computers per se and may include, without limitation, other processor-based devices or network-communicating hardware components, such as printers, servers, terminals, copiers, fax machines, mobile/wireless telephones and Internet telephones.”

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Lee disclosed (page 1, lines 6-7), modifying computer related systems from a remote location.

Lee recognized the need for (page 2, lines 26-28) “controlling the modification of computer hardware, firmware, and/or software from a remote location...” Page 3, line 36, “There can in fact be any number of different types of client systems.”

It would have been obvious, to one of ordinary skill in the art, at the time of the invention, to modify Cantos / Lee include updates to memory on ‘work machines’ as suggested by Hanson, because vehicle controllers / computers are known in the art and maintaining, updating the controllers enhances the value of such client device equipment. The ability to (Hanson, col. 1, line 53) “survive rough handling” was suggested by Hanson to demonstrate a computer / controller in a ‘work environment,’ Hanson disclosed the need to download / upload control programming and application programming (col. 2, lines 6-12), a data capture system, which could be quickly and simply loaded in a relatively foolproof manner, without requiring attention and care from operators engaged in physically demanding and arduous work routines.” Thus Hanson showed the advantage of updating controllers / computers on a ‘work machine.’

All references pertain to the management of updates to client software in systems.

Examiner maintains the rejection of claims 1-27.

#### **(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner’s answer.

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For the above reasons, it is believed that the rejections should be sustained.

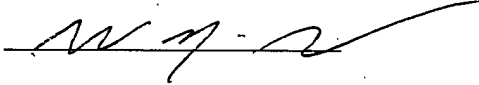
Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Mary Steelman", written over a horizontal line.

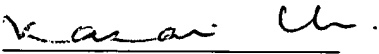
Mary Steelman, Examiner

Conferees:

**WEI ZHEN**  
**SUPERVISORY PATENT EXAMINER**

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Wei Zhen, SPE 2191

A handwritten signature in cursive script, appearing to read "Kakali Chaki", written over a horizontal line.

Kakali Chaki, SPE 2193